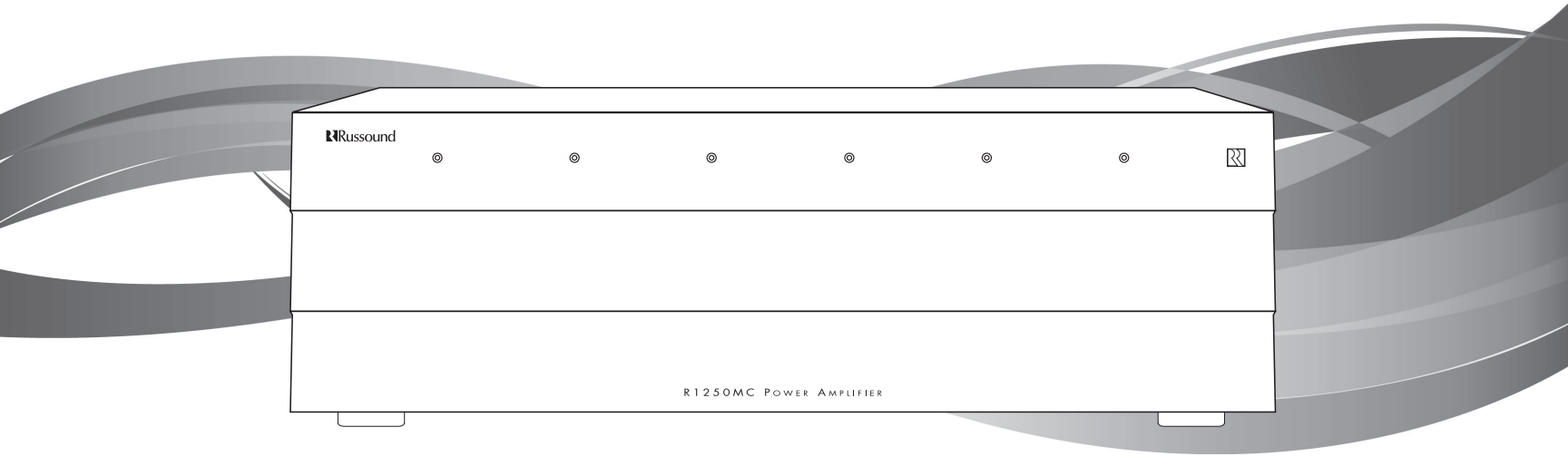
Russound®



R1250MC

6-Zone, 12-Channel Power Amplifier
Installation Manual

audio everywhere

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Safety Instructions

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the appliance in the operating instructions should be adhered to.
4. Follow Instructions - All operating and user instructions should be followed.
5. Water and Moisture - The appliance should not be used near water; for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus. Do not touch the appliance with wet hands. Do not handle the appliance or power cord with wet or damp hands. If water or any other liquid enters the appliance cabinet, take it to qualified service personnel for inspection.
6. Cleaning - The appliance should be cleaned only as recommended by the manufacturer. From time to time you should wipe off the front and side panels and the cabinet with a soft cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since this may damage the finish or remove the panel lettering.
7. Ventilation - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings. Place the unit in a well-ventilated location, leaving at least 2 inches (5 cm) of clearance on all sides, top and rear of unit for air flow. If ventilation is blocked, the unit may overheat and malfunction.
8. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
9. Grounding or Polarization - Precaution should be taken so that the grounding or polarization means of an appliance is not defeated.
10. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, receptacles, and the point where they exit from the appliance.
11. Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
12. Main Power Disconnect - The power switch is a single-pole switch. When the switch is in the "Off" position, the appliance is not completely disconnected from the main power. The main power plug is used as the disconnect device and shall remain readily operable. When installing the product, ensure that the plug is easily accessible.
13. Non-Use Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
14. Attachments - Only use attachments/accessories specified by the manufacturer.
15. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combination to overturn.

16. Wall or Ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
17. Location of the Amplifier - Do not mount this unit under a kitchen cabinet. Do not expose the amplifier to direct sun light or heating units as the amplifier internal components' temperature may rise and shorten the life of the components. Avoid damp and dusty places.
18. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through the openings.
19. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
20. Damage Requiring Service - The appliance should be serviced by qualified service personnel when: A. The power supply cord or the plug has been damaged; B. Objects have fallen, liquid has been spilled into the appliance; C. The appliance has been exposed to rain; or D. The appliance does not appear to operate normally; or E. The appliance has been dropped or the enclosure is damaged.

Conforms to UL60065 Certified to CAN/CSA IEC60065

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of or more of the following measures: reorient or relocate the receiving antenna; increase the separation between the equipment and receiver; connect the equipment into an outlet on a circuit different from that to which the receiver is connected, or consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Introduction

The Russound R1250MC is a 12-channel power amplifier and is ideal for use as the main amplifier in home theater and distributed audio systems. The 12 channels are arranged in pairs to provide amplification for six stereo zones. The R1250MC provides an array of useful features such as bridge mode operation, independent zone triggering, bus inputs and multiple speaker outputs per zone to meet a wide variety of applications and configurations.

The R1250MC is rated at 50 watts per channel into 8 ohms and 80 watts per channel into 4 ohms. With the Stereo/Bridge Mono switch in the Bridged Mono position, both channels in the zone are combined for a higher powered mono output. In bridged mode, the R1250MC is rated at 140 watts of power into a single 8 ohm load. All this power is backed by three high output torodial transformers. Each amplifier output channel incorporates robust protection circuitry for safety and reliability under extreme circumstances.

Thermal Protection

All Russound amplifiers are designed with special circuitry to safeguard the amplifier under a thermal overload condition. Thermal protection mode can only engage when the unit has been run at high volume for extended periods of time without adequate ventilation and/or when speaker impedances are below the minimum levels for the amplifier. If this fault occurs, turn off the amplifier, and check that the speaker impedance rating is above the minimum rating. Also check for adequate ventilation around the amplifier and make adjustments if necessary.

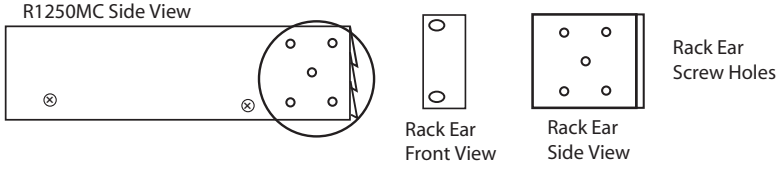
Once the unit has cooled to safe operating temperatures, the amplifier may be powered back on.

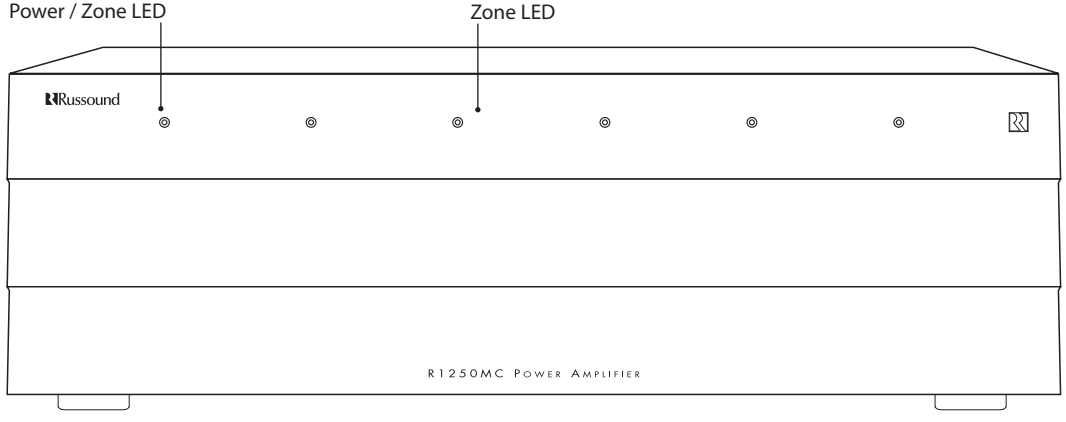
Protection Circuitry

All Russound amplifiers are designed with special circuitry to safeguard the amplifier under a short-circuit condition. A faulty speaker can also cause a short circuit condition. The front panel LED illuminates orange when the amplifier is in short circuit protection. If this fault condition occurs, turn off the amplifier and check speakers for short circuit conditions when appropriate.

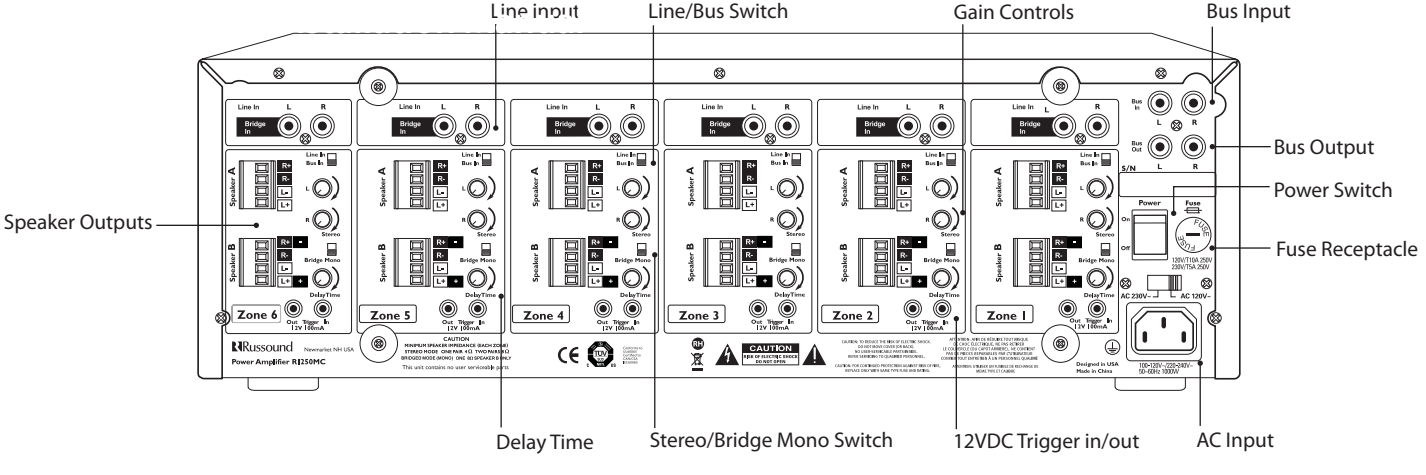
Rack Mounting

The R1250MC amplifier can be rack mounted using the included rack-mount ears and hardware to attach the ears to the amplifier. The amplifier will take three rack spaces with the feet removed.





R1250MC Front Panel



R1250MC Rear Panel

Power LED

On start-up, the first LED lights red to show power on. When the first zone is turned on, the LED lights green.

Zone LED

On start-up, zone LEDs are off (except Zone 1). When each zone powers on, the corresponding LED lights green. When at least one zone is on, the rest of the zone LEDs are red to show they are in standby mode. If a short circuit happens on the speaker outputs, the LED will light amber.

Bus Input/Output

The bus line input is an optional input that can be used to connect a single source to multiple zones. The bus line output is a passive passthrough of the bus input and can be used to daisy chain the source to other amplifiers in the system.

Line Input

The line audio input for each zone is a dedicated sensing input that will activate the zone when an audio signal from a source is present.

Line/Bus Switch

Sets the zone input to the Line Input or the Bus Input.

Speaker Outputs

The A and B speaker outputs are in parallel to the zone amplifier output. The minimum speaker impedance for stereo mode operation is 4 ohms for one pair and 8 ohms for two pairs of speakers. The minimum impedance for bridged mode operation is 8 ohms, Speaker B only.

Gain Controls

Left and Right gain controls independently adjust the sound level for each channel. When used in the bridged mode only the Left control is used.

Power Switch

Turns the amplifier on/off. This switch does not disconnect the main power feed from the amplifier; this requires that the power cord be unplugged from the outlet.

Fuse Receptacle

Holds a replaceable fuse for AC power input connection. Fuse rating for North America is T10AL 250V and for Europe is T5AL 250V.

AC Input / Voltage Switch

Voltage is set with a selectable switch for 110V or 240V operation. The AC voltage input for the North American model is 120VAC at 60Hz (European model, 230VAC at 50Hz). This receptacle accepts a 3-prong IEC 320 type connector. A detachable 3- terminal power cord is included.

12VDC Trigger In/Out

The 12V Trigger In is used to activate the zone. The Trigger Out provides 100mA 12V max. This can be used to drive other 12V triggered devices. The delay and audio sensing are bypassed when the 12V trigger input is used.

Delay Time

Muting delay can be adjusted from about 0.5 minute to 4.5 minutes. When an audio signal is not present, the amplifier will automatically go into standby mode after the preset period of time.

Standby Mode

The amplifier will go into Standby mode when no audio signal or trigger is present, and after the minimum delay time has timed out. The amplifier will go into a 0.5 Watt or less standby power mode.

Stereo/Bridge Mono Switch

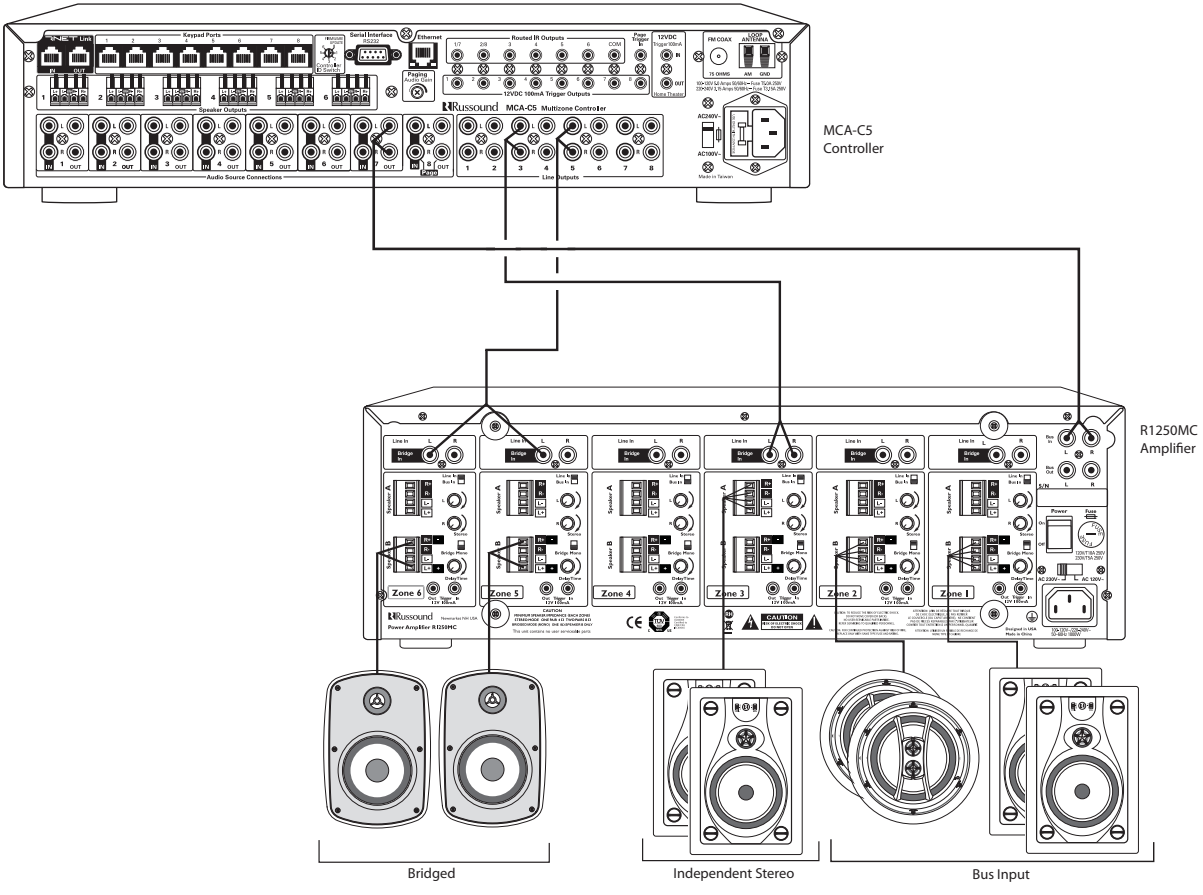
Sets each zone amplifier for stereo or bridged mono operation.

TYPICAL SYSTEM CONFIGURATION

The R1250MC can be configured as the main amplifier for an audio distribution system or home theater system.

When used with an audio distribution preamp, each zone can independently drive one of several different sources by using each zone's individual line audio inputs, or a pair of zones can be bridged to create a higher powered zone.

When the R1250MC is used as a home theater amplifier, three zones can be bridged to provide high power for the front and center channels and the remaining zone can be used for the surround effects.

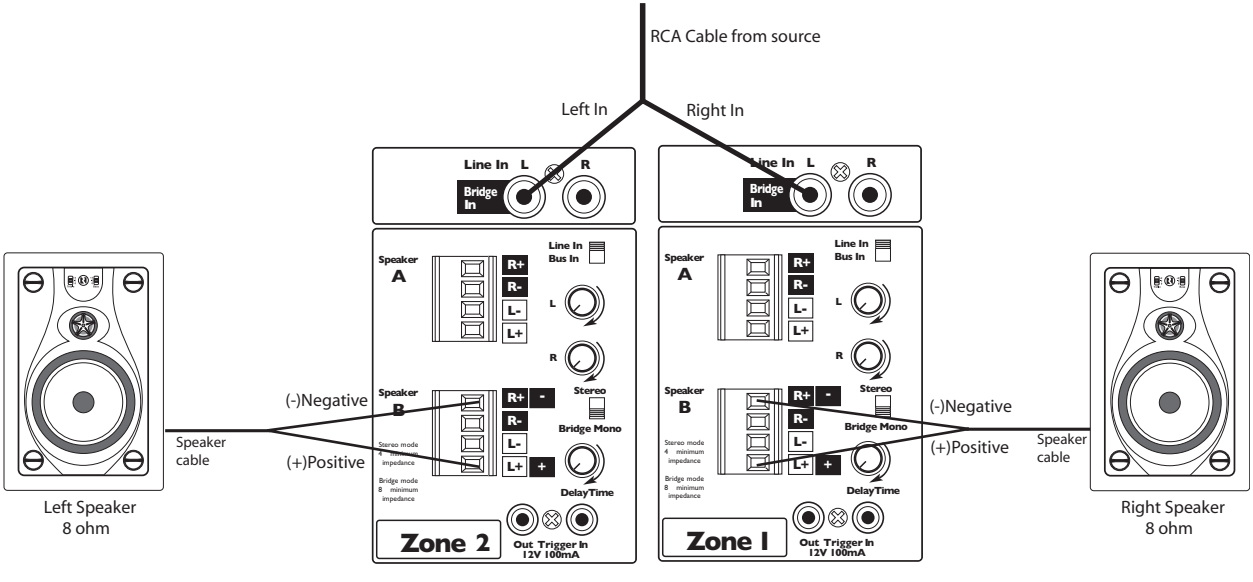


Connections for audio distribution preamp outputs

When the amplifier is in Bridged mode operation, both the left and right channels are combined for a higher power mono output.

For bridged amplifier operation, turn off the power to the amplifier and connect an 8-ohm minimum load to the Speaker B output.

Following the Bridge mode markings in red on the back of the amplifier: Connect the negative lead (-) of the speaker cable to the R+ terminal. Connect the positive lead (+) of the speaker cable to the L+ terminal. Set the Stereo/ Bridge Mono switch to Bridge Mono, connect the Line In feed from a source to the Left Line In connection and restore power to the amplifier.



Connections for bridged mode operation

TECHNICAL SPECIFICATIONS

R1250MC Amplifier

Single Zone Maximum Output Power:	50W per channel, 2 channels at 8 ohms (0.1% THD+N; f=1 kHz) 80W per channel, 2 channels at 4 ohms 140W at 8 ohms, 2 channels bridged
All Zones Continuous Output Power:	35W per channel, 12 channels at 8 ohms 50W per channel, 12 channels at 4 ohms 100W at 8 ohms, each zone bridged
Distortion THD+N	<0.05% 8 Ohm, from 20Hz to 20kHz
Signal-to-Noise Ratio:	>100dB
Frequency Response:	20Hz to 20KHz +/- 0.3dB
Input Sensitivity:	70mV for 1W at 8 ohms 500mV for 50W at 8 ohms
Input Impedance:	47kohms Line Input
Voltage Gain:	32dB
Delay Time:	0.5 to 4.5 minutes
Input Trigger:	12VDC 10 kohms
Output Trigger:	12VDC 100 mA
Power Requirements:	***North American Model:*** 100-120VAC 60Hz 1000W IEC 320 type connector with 3 terminal detachable power cord.
Fuse Rating:	T10AL 250V
Power Requirements:	***European Model:*** 220-240VAC 50Hz 1000W IEC 320 type connector with 3 terminal detachable power cord.
Fuse Rating:	T5AL 250V
Standby Power:	≤ 0.5 W
Dimensions:	17" W x 16.5"D x 5.875"H (43 x 42 x 15 cm)
Weight:	35.05 lbs. (15.77 kg)

The R1250MC Amplifier meets EU Standby Power Requirements

Warranty

The Russound R1250MC Amplifier is fully guaranteed against all defects in materials and workmanship for two (2) years from the date of purchase. During this period, Russound will replace any defective parts and correct any defect in workmanship without charge for either parts or labor.

For this warranty to apply, the unit must be installed and used according to its written instructions. If service is necessary, it must be performed by Russound. The unit must be returned to Russound at the owner's expense and with prior written permission. Accidental damage and shipping damage are not considered defects, nor is damage resulting from abuse or from servicing by an agency or person not specifically authorized in writing by Russound.

This Warranty does not cover:

- Damage caused by abuse, accident, misuse, negligence, or improper installation or operation
- Power surges and lightning strikes
- Normal wear and maintenance
- Products that have been altered or modified
- Any product whose identifying number, decal, serial number, etc. has been altered, defaced or removed.

Russound sells products only through authorized Dealers and Distributors to ensure that customers obtain proper support and service. Any Russound product purchased from an unauthorized dealer or other source, including retailers, mail order sellers and online sellers will not be honored or serviced under existing Russound warranty policy. Any sale of products by an unauthorized source or other manner not authorized by Russound shall void the warranty on the applicable product.

Damage to or destruction of components due to application of excessive power voids the warranty on those parts. In these cases, repairs will be made on the basis of the retail value of the parts and labor. To return for repairs, the unit must be shipped to Russound at the owner's expense, along with a note explaining the nature of service required. Be sure to pack the unit in a corrugated container with at least three (3) inches of resilient material to protect the unit from damage in transit.

Before returning a unit for repair, call Russound at (603) 659-5170 for a Return Authorization number. Write this number on the shipping label and ship to:

Russound
ATTN: Service
5 Forbes Road
Newmarket, NH 03857

Due to continual efforts to improve product quality as new technology and techniques become available, Russound/FMP, Inc. reserves the right to revise system specifications without notice.

Russound®

R1250MC

6-Zone, 12-Channel Power Amplifier
Installation Manual

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